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Self-monitoring or reliance on newswire services: How do financial market participants process central bank news?

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Self-Monitoring or Reliance on Newswire
Services: How Do Financial Market
Participants Process Central Bank News?

Bernd Hayo

Matthias Neuenkirch



**Self-Monitoring or Reliance on Newswire Services:
How Do Financial Market Participants Process Central Bank
News?**

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**Self-Monitoring or Reliance on Newswire Services:
How Do Financial Market Participants Process Central Bank News?**

Abstract

We study how financial market participants process news from four major central banks—the Bank of England (BoE), the Bank of Japan (BoJ), the European Central Bank (ECB), and the Federal Reserve (Fed), using a novel survey of 450 financial market participants from around the world. Our results indicate that, first, respondents rely more on newswire services to learn about central bank events than on self-monitoring. In general, the Fed is watched most closely, followed by the ECB, the BoE, and the BoJ. Second, we estimate ordered probit models to relate the two different types of central bank watching to the perceived importance of central bank events and the reliability of media coverage. Our results indicate that financial agents have to rely on newswire services to appropriately cope with a globalised market environment and digest news. However, when respondents consider an event particularly important, they tend to self-monitor it, especially when the event is taking place in their home region.

Keywords: Central Bank Communication, Financial Market Participants, Information Processing, Interest Rate Decisions, Newswire Services, Reliability, Survey.

JEL: D83, E52, E58.

1. Introduction

Over the past two decades, the ‘art’ of central bank watching has changed substantially. For instance, prior to February 1994, market participants had to infer from open market operations whether, and if so, to what extent, the Federal Reserve’s (Fed) policy stance had changed (Poole, 2005). From the mid-1990s, however, and up until the outbreak of the recent financial crisis, central banks increasingly used communication for explaining past interest rate decisions and preparing market participants for upcoming decisions.¹ In recent years, with interest rates stuck at the zero lower bound, some central banks (e.g., the Fed and the Bank of Canada) have gone one step further. They have introduced ‘conditional commitments’ to keep the interest rate at this ultra-low level, conditional on the development of specified macroeconomic conditions.

Given the flood of daily information financial agents are exposed to, it is very unlikely that they are able to directly monitor all action and communication by many central banks, not to mention the vast number of worldwide macroeconomic news and company-specific announcements. They are obviously time constrained and thus must rely on the media, particularly newswire services, to digest this flood of information.² Indeed, Neuenkirch (2009, 52) concludes that ‘financial market news is not necessarily created at the time when the information becomes available, but comes into existence only after it goes through a filtering process by the media’.³

However, there are at least two risks of relying on newswire services. First, newswire agencies might be *selective* in their coverage, thereby ignoring certain events they consider non-newsworthy. Indeed, Neuenkirch (2013a) finds that Reuters disregards the majority of speeches by the lesser-known Fed presidents. There is even some evidence that the media attempts to ‘sell’ news to financial markets, as the probability of newswire coverage is higher if there has not been any communication for a while or occurs right before the weekend. Moreover, Hayo and Neuenkirch (2010) conclude that newswire reports of central bank communications are not a substitute for the whole range of original communications when predicting the Fed’s target-rate decisions.

¹ There is a growing body of literature investigating the effects of central bank communication. For a comprehensive survey of the relevant literature, see Blinder et al. (2008).

² In a seminal paper, Sims (2003) provides a theoretical framework for information-processing constraints in macroeconomic models.

³ See also Hendry (2012) and Neuenkirch and Hayo (2012).

Second, there is the risk of *misinterpretation* as illustrated in the following famous quote by former Fed Governor Laurence Meyer (The Region, 1998): ‘The primary difficulty is the variety of interpretations that are given to what you say, especially by the different wire services. So, you try to be disciplined and communicate as effectively as you can, and then you give a speech and get 10 varying interpretations of what you said, often with a lot of liberties taken in the interpretation’.

Therefore, it must be kept in mind that when covering central bank events, the media might influence the public’s perception of what happened. A different strand of literature suggests that media coverage is affected by the views and preferences of the audience. The success of a media provider depends on a continuing demand for its products and services (e.g., Mullainathan and Shleifer, 2005; Hamilton, 2004) and Gentzkow and Shapiro (2010) show that news reporting responds strongly to consumer preferences.

By asking financial market participants about how they process news from four major central banks—the Bank of England (BoE), the Bank of Japan (BoJ), the European Central Bank (ECB), and the Fed—this paper examines whether financial agents monitor central bank actions and communications directly or instead rely on newswire services. The analysis is based on a unique dataset of 450 market participants from various financial institutions located throughout the world that was collected by Barclays in 2013 using an extensive questionnaire jointly developed with us.

In the first part of our analysis, we study (i) how financial agents monitor central bank actions and communications, (ii) how they perceive the persistence of central bank news on financial markets (as a proxy for the relative importance of this news), and—in light of the previous discussion—(iii) how they evaluate the reliability of media coverage of central bank actions and communications. In the second part, we relate the last two aspects to the first and answer the following research question: Why do financial agents monitor central bank actions and communication directly or instead rely on newswire services?

The paper contains a methodological innovation. To the best of our knowledge, and consistent with a literature review conducted by Blinder et al. (2008), this is the first paper to take a closer look at how financial agents process central bank news.⁴ Typically, the usefulness of central bank action and, in particular, central bank

⁴ Note that a different part of the questionnaire is used as input for a study on the special role of central bank communication during the financial crisis (see Hayo and Neuenkirch, 2014).

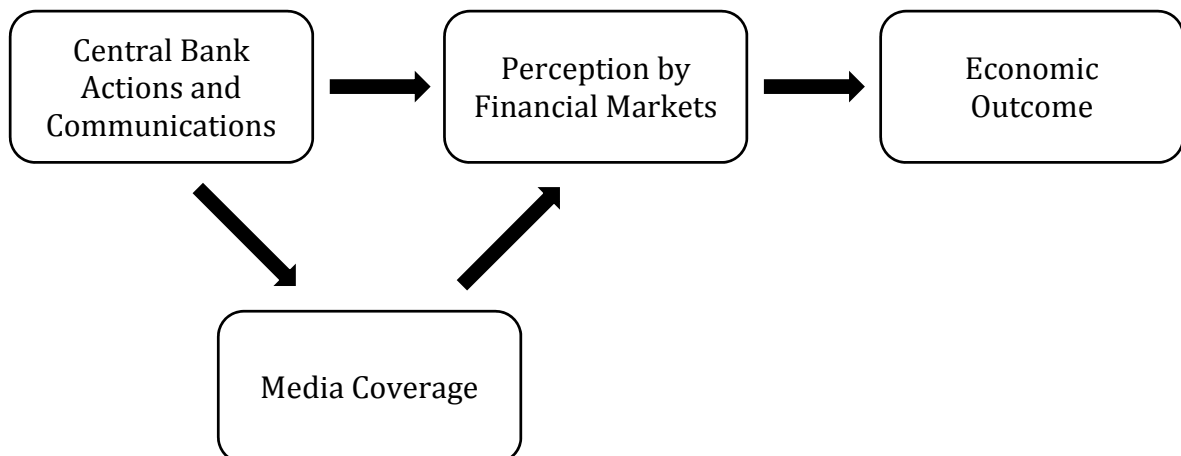
communication is evaluated by (i) its impact on financial markets (see the extensive survey by Blinder et al., 2008), (ii) its contribution to predicting future interest rate decisions (Jansen and de Haan, 2009; Hayo and Neuenkirch, 2010; Sturm and de Haan, 2011), or (iii) its role in the monetary policy transmission process (Neuenkirch, 2013b). Figure 1 illustrates this standard view in a stylised way.

Figure 1: Standard View of Central Bank Action and Communication



This standard view is an oversimplification, as the effect of central bank action and communication on economic outcomes is likely more complex (see also Woodford, 2005). Central bankers' crucial task is to influence the expectations of economic agents, which in turn will lead to changes in the economic outcome. Therefore, we believe that Figure 2 is a more realistic description of the actual transmission process.

Figure 2: More Realistic View of Central Bank Action and Communication



The perception of action and communication is a crucial component in this process. In addition, it is important to know the extent to which the media are a selective transmitter of news in the sense that they select central bank events that are—in their view—newsworthy and provide financial agents with an interpretation of these events. Both issues, the perception by financial markets and the role of the media, are neglected

in the literature. Thus, by studying how economic agents monitor central bank news, this paper highlights some novel aspects of how interest rate decisions and communication affect economic outcomes.

This paper also contributes to the branch of the finance literature that uses surveys of financial market participants to achieve insight into, for example, information acquisition and trading behaviour (see, e.g., Shiller and Pound, 1989; Menkhoff, 1998; Cheung and Chinn, 2001; Oberlechner and Hocking, 2004; Menkhoff and Nikiforow, 2009). However, none of these papers studies the role of the media in shaping perceptions of financial market participants in regard to central banks and their communications and actions.

The remainder of this paper is organised as follows. Section 2 introduces the survey and provides some descriptive statistics. Section 3 presents the empirical methodology. Section 4 discusses the empirical results of the survey. Section 5 concludes.

2. The Survey

The survey was conducted by Barclays Europe between 17 April and 1 May 2013. All subscribers to Barclay's fixed income newsletter were invited via e-mail to participate in an online survey. Our sample consists of 450 completed questionnaires. Respondents are from all over the world and work in different occupations and positions (see Table A1 in the Appendix).⁵ A general analysis of the recent round of survey data, targeted to Barclays' clients, can be found in Barclays (2013).

In the following subsections, we introduce the survey questions relevant for this paper and discuss some descriptive results. Respondents were asked to answer these questions separately for four central banks: the BoE, the BoJ, the ECB, and the Fed. After completing the survey, respondents were given the opportunity to comment on the general theme of the survey, that is, central bank communication. We occasionally refer to these comments, as they contribute some added depth to the answers to the structured questions; in a sense, taking the comments into consideration combines our quantitative analysis with some aspects of a qualitative analysis.

⁵ Barclays also surveyed market participants in August 2007 and August 2008, but none of the questions we focus on was included in these earlier surveys.

2.1. Monitoring Central Bank Actions and Communications

Our analysis starts with the question of how market participants monitor interest rate decisions.

Q1a: How do you monitor the interest rate decisions by the BoE/BoJ/ECB/Fed?

- I read the press releases or watch the press conferences.
- I rely on media reporting.

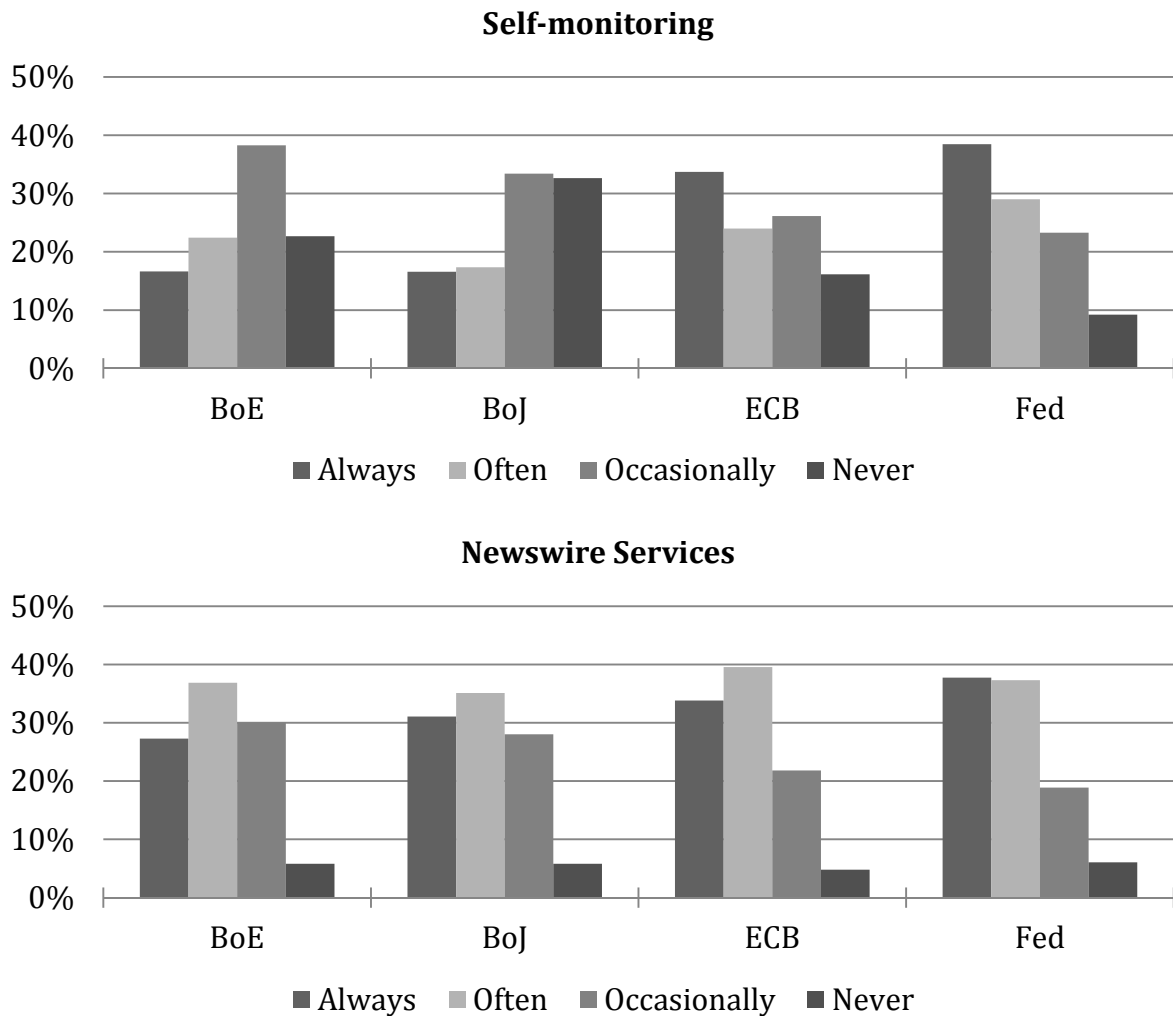
Survey participants were asked to answer the question separately for both ways of monitoring interest rate decisions on a four-point-scale (1 = never, 2 = occasionally, 3 = often, 4 = always).⁶ Figure 3 summarises the distribution of answers.

In the case of self-monitoring, there is an apparent difference between the ECB and the Fed on the one hand, and the BoE and the BoJ on the other hand. The distribution of answers for the first two central banks is skewed to the right, whereas it is skewed to the left for the latter two. This is also reflected in a higher share of respondents who closely self-monitor ECB and Fed decisions. We find that 68% (Fed) and 58% (ECB) of the respondents read the press releases or watch the press conferences ‘always’ or ‘often’ compared to 39% (BoE) and 34% (BoJ).

The picture is somewhat different when it comes to the frequency with which financial agents rely on newswire services to monitor interest rate decisions. The distribution of answers is skewed to the right for all four central banks, indicating that market participants also care about the BoE’s and BoJ’s interest rate decisions but rely relatively more on media reporting for this information. The share of respondents who answered ‘always’ or ‘often’ varies between 64% (BoE) and 75% (Fed).

⁶ Note that participants always had the option of answering ‘don’t know’ or of skipping a question. About 600 respondents did not complete the entire questionnaire, possibly due to time constraints. In light of this loss in the number of observations, we investigated the possibility of sample selection. Based on the questions answered by both groups of respondents, we found no evidence of notable differences between those who completed the survey and those who did not.

Figure 3: Monitoring Interest Rate Decisions



A related question uses the same four-point scale to ask how market participants monitor speeches by central bank officials, separately for both self-monitoring and reliance on media reporting.

Q1b: How do you monitor speeches by the BoE/BoJ/ECB/Fed officials?

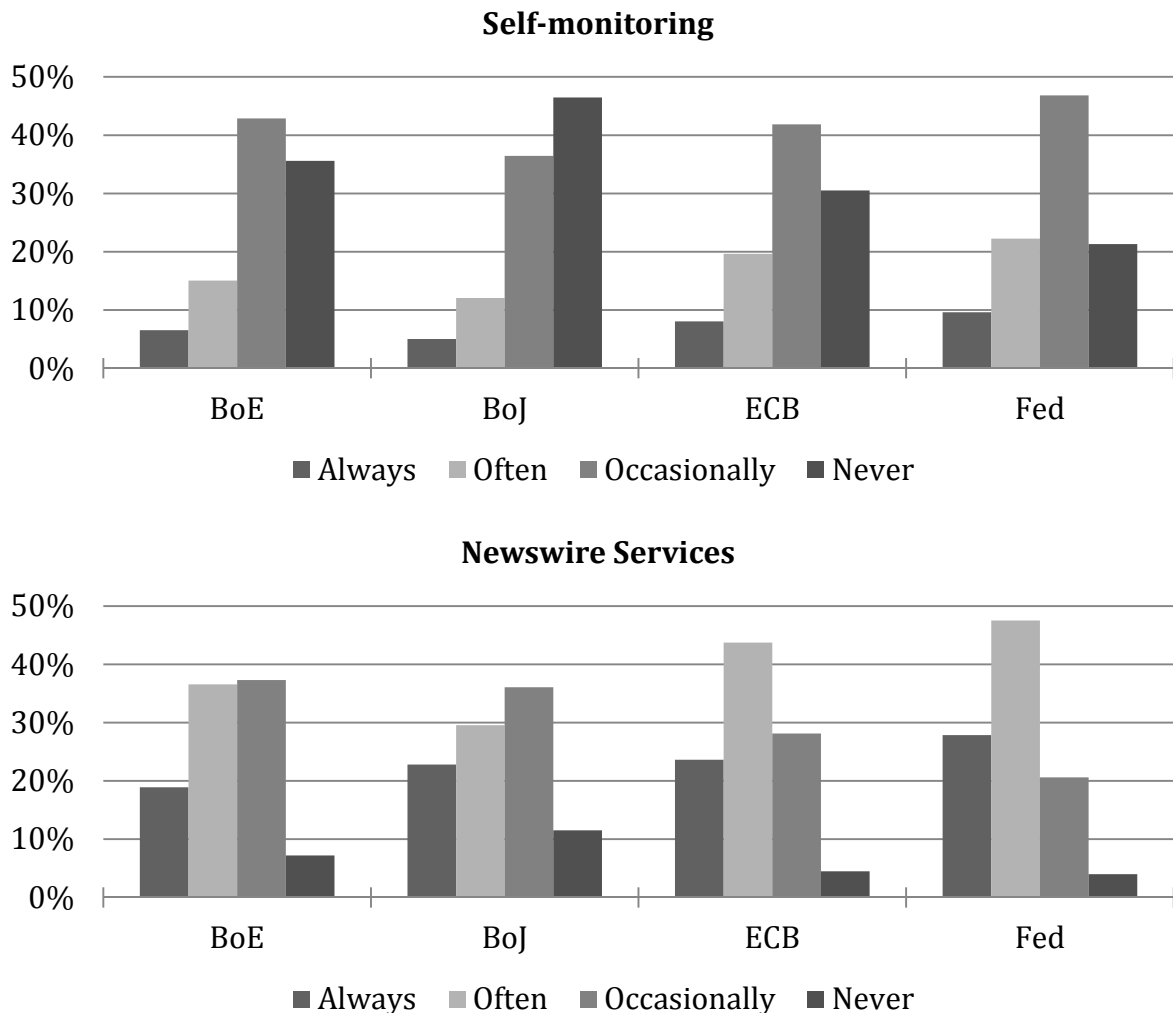
- I read the transcript/manuscript or watch/listen to the speech.
- I rely on media reporting.

Figure 4 summarises the distribution of answers.

In general, there is a lower level of interest in speeches than in interest rate decisions, irrespective of whether speeches are monitored directly or via newswire services. The distributions are clearly left-skewed in the case of self-monitoring and right-skewed in the case of using newswire reports to follow central bank

communications, indicating that speeches are important for market participants but that monitoring them directly is too costly.

Figure 4: Monitoring Speeches



Compared to the distribution of answers regarding interest rate decisions, the gap between the ECB and the Fed, on the one hand, and the BoE and BoJ, on the other, is much wider when it comes to speeches. For self-monitoring, we find 28% (ECB) and 32% (Fed) versus 22% (BoE) and 17% (BoJ) of the participants answering 'always' or 'often'. For reliance on newswire services, the corresponding shares are 67% (ECB) and 75% (Fed) versus 55% (BoE) and 52% (BoJ). Put differently, financial market agents are much more likely to personally monitor speeches by representatives of the Fed and the ECB than those of the other two central banks. This likely reflects the difference in importance between these central banks for financial markets worldwide.

The descriptive statistics in Table 1 provide a more formal perspective on the differences across central banks and the two types of events.

Table 1: Monitoring Interest Rate Decisions and Speeches

	Overall	Home	Non-H.	Diff. Sign.
<i>Bank of England</i>				
(1) Interest Rate Decisions: Self-Monitoring	2.3	2.8	2.2	**
(2) Interest Rate Decisions: Newswire	2.9	3.1	2.8	**
(3) Speeches: Self-Monitoring	1.9	2.2	1.8	**
(4) Speeches: Newswire	2.7	3.0	2.6	**
<i>Bank of Japan</i>				
(1) Interest Rate Decisions: Self-Monitoring	2.2	3.1	2.0	**
(2) Interest Rate Decisions: Newswire	2.9	3.1	2.9	
(3) Speeches: Self-Monitoring	1.8	2.2	1.7	**
(4) Speeches: Newswire	2.6	2.8	2.6	
<i>European Central Bank</i>				
(1) Interest Rate Decisions: Self-Monitoring	2.8	3.4	2.6	**
(2) Interest Rate Decisions: Newswire	3.0	3.0	3.0	
(3) Speeches: Self-Monitoring	2.1	2.4	2.0	**
(4) Speeches: Newswire	2.9	2.9	2.9	
<i>Federal Reserve</i>				
(1) Interest Rate Decisions: Self-Monitoring	3.0	3.1	2.9	
(2) Interest Rate Decisions: Newswire	3.1	2.9	3.1	
(3) Speeches: Self-Monitoring	2.2	2.2	2.2	
(4) Speeches: Newswire	3.0	3.0	3.0	

Notes: Coding: 1 = never, 2 = occasionally, 3 = often, 4 = always. The 'Home' column shows means from respondents located in the home region of the respective central bank compared to those from the rest of the world ('Non-H.'). Significant differences across these two groups are indicated by ** (1% level) and * (5% level).

Market participants rely more on newswire services to learn about interest rate decisions (rows (2)) and speeches (rows (4)) than on self-monitoring (rows (1) and (3)). The difference between the respective means is statistically significant at the 1% level, the only exception being Fed interest rate decisions. Market participants are so interested in decisions by, arguably, the world's most important central bank that they self-monitor them in addition to checking media reports.

For interest rate decisions, the general attention level is statistically higher (at the 1% level) than for speeches, irrespective of whether events are monitored directly or via newswire services. Again, there is one exception, as we find no significant difference in the case of newswire coverage of Fed decisions and speeches. Thus, speeches by Fed officials are monitored as closely via newswire as actual target rate decisions, a fact that might reflect either the Fed's importance or a higher level of

ambiguity in regard to it, as it is the only central bank in our sample with an explicit dual mandate.

Comparing the attention level across central banks, we observe the same order most of the time (at least at the 5% significance level). The Fed is monitored most closely, followed by the ECB, the BoE, and the BoJ.⁷

We find no significant evidence of a home bias in the case of the Fed. Respondents from North America watch Fed events in much the same way as do those from the rest of the world. However, there is a definite home bias in the case of the BoE: respondents from the United Kingdom (UK) monitor central bank events significantly more closely than do the other respondents. There is some evidence of home bias in the case of the BoJ and ECB, too, but only in regard to self-monitoring. Thus, agents spend relatively more time directly monitoring speeches from their home central bank.

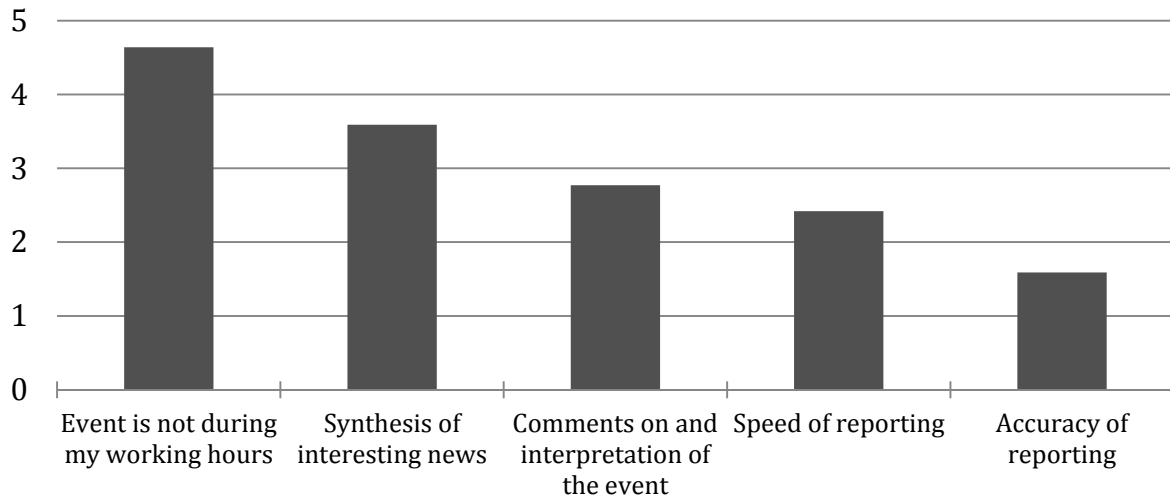
Respondents were given the opportunity to make comments as to the topic of the survey. A statement by one respondent is well in line with the above findings: 'We have Bloombergs; typically anything out on central banks comes across and is read here first'. Another survey participant emphasises a different advantage by saying 'the better media organizations help to distil the cacophony of messages'. To learn more about financial market agents' motives for using media monitoring of interest rate decisions or speeches by central bank officials, we included a question in the survey asking them to rank their reasons for doing so with numerical values from 1 (not very important) to 5 (very important). Figure 5 summarizes the results.

We find that the most important reason for relying on media reporting is due to an important consequence of globalisation: economic news can happen at any hour. Individual financial market agents are unable to follow news on a 24-hour basis and therefore must rely on media reporting to catch up with events. The second most important reason is related to time constraints: given the large amount of potentially relevant news, financial market participants value summaries of important events or announcements. The third advantage of media reporting is the accompanying commentary and interpretation, which helps market agents filter the flow of information. Speed and accuracy of reporting appear to be relatively less relevant, which

⁷ There are some exceptions. In the case of monitoring interest rate decisions via newswire services, statistical testing fails to differentiate between (i) the Fed and the ECB, (ii) the ECB and the BoJ, and (iii) the BoJ and the BoE. In the case of relying on newswire services for speeches, we cannot distinguish between the BoE and the BoJ.

suggests that when speed and precision are needed, our survey respondents will directly monitor central bank action or speeches.

Figure 5: Ranking of Reasons for Monitoring Media Reporting of Interest Rate Decisions or Speeches by Central Bank Officials



Notes: Coding: 1 = not very important to 5 = very important. A value could not be assigned twice.

2.2. Importance of Central Bank Action and Communication

A second set of questions asks about the subjective importance of central bank action and communication for financial markets. The first question is concerned with the persistence of interest rate decisions.

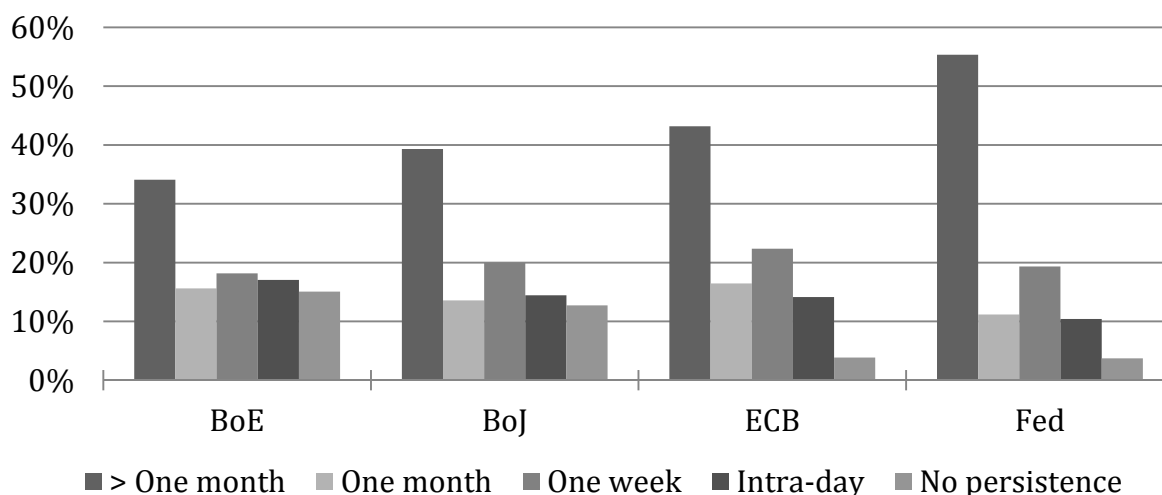
Q2a: In your opinion, how persistent is the impact of interest rate decisions by the BoE/BoJ/ECB/Fed on financial markets?

The answer scale for this question is: greater than one month, one month, one week, intra-day, and no persistence. Figure 6 summarises the distribution of answers.

We find that at least one-third of the participants perceive the interest rate decisions of all four major central banks to have an impact that persists for more than one month. This complements 'news' studies in the extant literature, in which, typically, high-frequency data are employed, that is, daily observations or higher. One methodological problem of these approaches is that, by construction, it is difficult to show that announcements have a longer-term, economically relevant impact. Our results from the survey suggest that participants believe that monetary policy actions have

persistent effects and, thus, complement the extant literature on the impact of ‘news’ on financial markets.

Figure 6: Subjective Persistence of Interest Rate Decisions



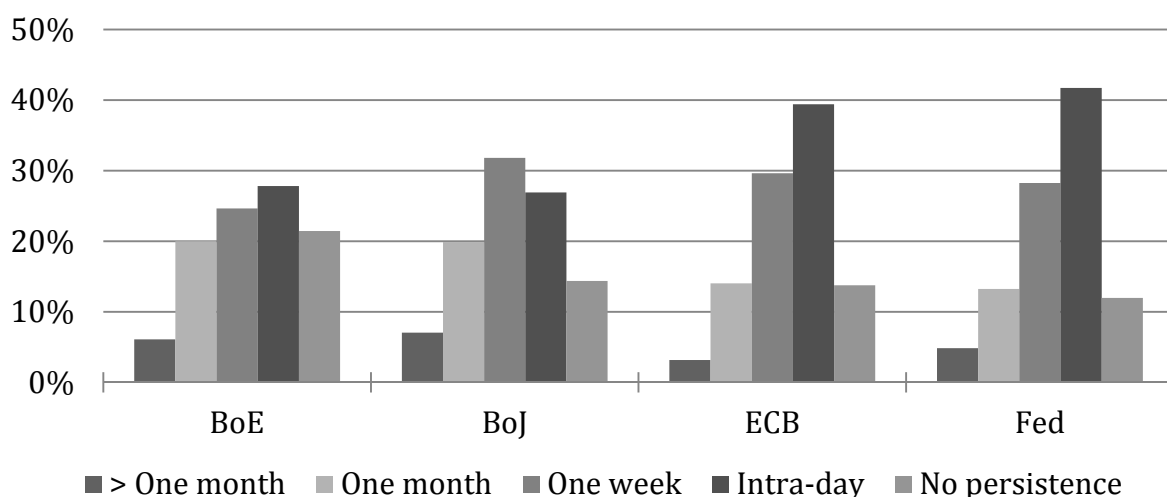
We find notable differences across central banks in the perceived persistence of the impact of interest rate changes. Interest rate decisions by the Fed are perceived to have the most persistent impact on financial markets; 55% of the respondents answered ‘greater than one month’ and another 11% gave the answer ‘one month’. The ECB ranks second with 60% of the respondents replying ‘one month or more’. Interest rate decisions by the BoJ (53%) and BoE (50%) are perceived to be less persistent.

A second question inquires about the persistence of the impact of speeches made by central bank officials, using the same five-point scale.

Q2b: In your opinion, how persistent is the impact of speeches by BoE/BoJ/ECB/Fed officials on financial markets?

Since monetary policy committees (MPC) typically have a certain hierarchy, we ask this question separately for (i) the governor and (ii) other MPC members for the BoE and BoJ. In the case of the ECB and Fed, we distinguish between three types of speakers: (i) the president/chairman, (ii) board members, and (iii) national/regional central bank presidents. To create an aggregate measure of persistence, we use the average perceived market impact across speaker groups in each central bank. Figure 7 summarises the answers.

Figure 7: Subjective Persistence of Speeches



Notes: Subjective persistence is the rounded average across speaker groups within each central bank.

On average, the impact of verbal communications is perceived to be much less persistent than the impact of interest rate decisions. This is generally in line with empirical ‘event’ studies analysing the effect of announcements on financial markets (see, e.g., the survey by Neely and Dey, 2010). The share of respondents answering one month or more ranges from 17% (ECB) to 27% (BoJ). Differences across central banks are not as apparent as in the answers to the question referring to interest rate decisions. This finding is particularly driven by the fact that the ECB’s Governing Council and the Fed’s Open Market Committee are much larger than their BoE and BoJ counterparts. As speeches by national (ECB) and regional (Fed) central bank presidents are considered less relevant by financial market participants, the large number of communications by these central bankers bias downward the average persistence of speeches.⁸

Descriptive statistics are set out in Table 2 to provide a more systematic picture of the differences across central banks as well as between speeches and interest rate decisions.

The impact of interest rate decisions is perceived to be more persistent than that of speeches at the 1% significance level for all central banks. In addition, there is a distinct hierarchy in the persistent impact of interest rate decisions (at the 1% significance level): the Fed ranks first, followed by the ECB, followed by the BoE and BoJ, which both rank last. In the case of speeches, we cannot statistically distinguish between

⁸ We do not omit these groups from the persistence measure, as the speakers have a (substantial) majority in the respective MPCs.

the BoJ, the ECB, or the Fed. However, the BoE ranks last across the four central banks (at the 5% significance level).

Table 2: Subjective Persistence of Interest Rate Decisions and Speeches

	Overall	Home	Non-H.	Diff. Sign.
<i><u>Bank of England</u></i>				
Interest Rate Decisions	3.4	3.9	3.2	**
Speeches	2.4	2.9	2.2	**
<i><u>Bank of Japan</u></i>				
Interest Rate Decisions	3.5	3.9	3.4	**
Speeches	2.6	2.7	2.6	
<i><u>European Central Bank</u></i>				
Interest Rate Decisions	3.8	4.2	3.7	**
Speeches	2.6	2.8	2.6	
<i><u>Federal Reserve</u></i>				
Interest Rate Decisions	4.0	4.2	4.0	
Speeches	2.6	2.8	2.6	*

Notes: Coding: 1 = no persistence, 2 = intra-day, 3 = one week, 4 = one month, 5 = greater than one month. The 'Home' column shows means from respondents located in the home region of the respective central bank compared to those from the rest of the world ('Non-H.'). Significant differences across these two groups are indicated by ** (1% level) and * (5% level).

The subjective assessment of the persistent impact of central bank events on financial markets exhibits a home bias, as survey participants from the UK evaluate the persistence of BoE events as longer compared to respondents from the rest of the world. We also find evidence of a significant home bias in the case of the BoJ's and ECB's interest rate decisions as well as for Fed speeches. The impact of these events is perceived as more persistent by respondents working in the respective central bank's home region.

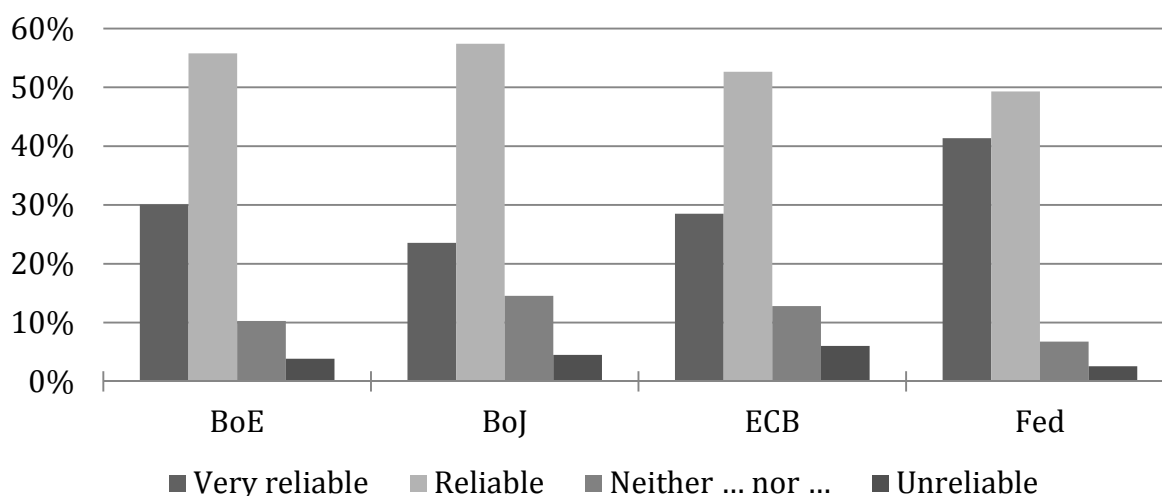
2.3. Reliability of Media Coverage

A third question evaluates the media's reliability regarding coverage of central bank events.

Q3: In general, how reliable do you think is the media coverage of actions and communications by the BoE/BoJ/ECB/Fed?

The answer scale for this question ranges from unreliable (1) to very reliable (4). Figure 8 summarises the distribution of answers and shows that, in general, market participants are pleased with the media's coverage of central banks. In the case of the Fed, more than 90% of respondents believe media reporting to be reliable or very reliable. In the case of the other three central banks, the number is only slightly lower at about 80%.

Figure 8: Reliability of Media Coverage



According to Table 3, statistical tests confirm at the 1% level that media coverage of the Fed ranks first in terms of reliability, but the tests generally fail to differentiate between the other central banks; the difference between the BoE and BoJ (at the 5% level) is the only exception. Finally, we find only weak evidence of a home bias, as respondents living in Europe, excluding the UK, rate the reliability of media coverage of the ECB higher than do survey participants living in the rest of the world.

Table 3: Reliability of Media Coverage

	Overall	Home	Non-H.	Diff. Sign.
Bank of England	3.1	3.2	3.1	
Bank of Japan	3.0	2.9	3.0	
European Central Bank	3.0	3.2	3.0	*
Federal Reserve	3.3	3.2	3.3	

Notes: Coding: 1 = unreliable, 2 = neither reliable nor unreliable, 3 = reliable, 4 = very reliable. The 'Home' column shows means from respondents located in the home region of the respective central bank compared to those from the rest of the world ('Non-H.'). Significant differences across these two groups are indicated by ** (1% level) and * (5% level).

Several informal comments from survey participants enrich the impression about the media's reliability. As shown in Figure 5, market participants list commentary and interpretation as the third most important reason for using media reporting. One explanation for why this reason is not more prominent in financial market agents' answers could be related to the problem of mixing the presentation of facts with an interpretation of the event. For instance, one respondent states: 'It really depends on the media disseminating the information and how much is "opinion" vs. "facts". ... I do not mind interpretations as long as they are truly balanced and stated as interpretations'. Another participant makes a similar point: 'I think reporting of events should tell me right up front what happened ... I would like less interpretation and more factual reporting'. One very interesting comment touches not only on liberties taken in media interpretations, but on the accuracy of reporting in general: 'Recent incorrect reporting by Bloomberg of an interest rate decision in Hungary (reported cut to 1% policy initially before correcting) and Colombia (reported a rate cut when rates were unchanged) raise concerns about the quality of financial reporting and the impact of incorrect information on financial markets. My confidence in the accuracy of headlines has decreased substantially and I am inclined to verify information with a source document. The incorrectly reported headlines moved [the Hungarian forint] significantly'.

Other respondents, however, defend the media, as they think the central banks themselves are responsible for creating diverging interpretations of the same event: 'Central Banks need to ... reduce the jargon that only very few outside central banks understand and feel at ease with'. Another participant puts forward an interesting proposal, albeit one that is most unlikely to be acted upon: 'Central bank announcements are (naturally) divorced from comment and analysis of the same. Hence, some kind of synthesis would be a good idea, with accredited analysts and academics being able to post analysis, observations, and criticisms to the central bank websites. This would be a lot better than having to rely on the media for interpretation'.

3. Empirical Methodology

Next, we study why financial agents directly monitor central bank action (Q1a) and communication (Q1b) or why they rely on newswire services in a multivariate framework. Given the ranking of answers in our dependent variables, we use ordered probit models as the estimation technique. The perceived market persistence of interest

rate decisions (Q2a) and speeches (Q2b), as well as the reliability of media coverage (Q3), serve as explanatory variables. Since all participants were asked the same questions for each of the four central banks, we can analyse our research questions in a quasi-panel setup.

There are two key advantages of this approach compared to estimating separate models for each central bank. First, estimating these effects in one model takes into account the expectation that individuals' views about communication are not independently distributed across the four central banks. Separate estimation has the potential to result in inconsistent standard error estimates. Second, a quasi-panel setup allows directly comparing coefficients and implementing efficient statistical tests in the context of one nested model.

However, a potentially serious drawback of panel estimation is the imposition of wide-ranging homogeneity restrictions on the estimated parameters. Here, we have a sufficiently large number of observations to let the coefficients of the explanatory variables vary across central banks, that is, our specification does not make *a priori* homogeneity assumptions. Based on statistical testing, we then reduce the degree of heterogeneity as much as possible by implementing non-rejected equality restrictions. Thus, while avoiding estimation biases by allowing for heterogeneity of participants' answers with respect to the four central banks, the resulting models are as efficiently estimated as possible.

Our general specification is as follows:

$$(1) y_{i,k}^* = \beta_{j,k} x_{j,k} + \eta_{1k} + \eta_{2l} + \eta_{3m} + \varepsilon_{i,k}.$$

$y_{i,k}^*$ is the latent continuous variable representing the ordinal choice for monitoring central bank k 's interest rate decisions/speeches directly/via the help of newswire services by survey participant i . $\beta_{j,k}$ denotes a vector of coefficients for the explanatory variables $x_{j,k}$. We explain the decision as to how to monitor a certain central bank event by the event's perceived importance and the reliability of its media coverage. Since our descriptive analysis indicates the presence of a home bias, we also include a vector of indicator variables to describe this phenomenon. Central-bank-fixed effects are captured by η_{1k} , and location-fixed effects and position-fixed effects by η_{2l} and η_{3m} , respectively. The residuals $\varepsilon_{i,k}$ are assumed to follow a standard normal distribution and the ordered probit models are estimated by maximum likelihood.

We estimate four separate models: self-monitoring of interest rate decisions (Model 1), relying on newswire services for monitoring interest rate decisions (Model 2), self-monitoring of speeches (Model 3), and relying on newswire services for monitoring speeches (Model 4). After estimating baseline models including all explanatory variables and coefficients, which are allowed to vary for the four central banks, we improve estimation efficiency in a three-step approach. First, we try to exclude each explanatory variable jointly for all central banks. A non-rejection of the null hypothesis leads to an exclusion of these variables from the final model. Second, in the event that the null hypothesis—that the joint effect of a variable is zero—cannot be rejected, we test a homogeneity restriction on the variable across the four central banks. If the null hypothesis is not rejected, we impose homogeneous coefficients across the four central banks in the final model. Otherwise, we allow for heterogeneity across the explanatory variables with respect to the respective central banks. Finally, the exclusion and homogeneity restrictions are confirmed by a joint test over all imposed restrictions on the general model. Given our interest in differences across central banks and respondents, fixed effects are not subject to exclusion tests.

4. Empirical Results

Tables A2 and A3 in the Appendix show the results for the full models explaining the survey participants' choice between monitoring central bank events directly or via newswire services.

4.1. Self-Monitoring

First, we take a closer look at the determinants for self-monitoring of central bank action and communication. The results indicate that the reasons for directly monitoring central bank events are the same for both actions (Model 1, left panel of Table A2) and communications (Model 3, left panel of Table A3). In neither case does the reliability of media coverage play a significant role, as these variables can be jointly excluded from the baseline models. Thus, the decision to directly monitor an event is not due to the impression of an 'unreliable' media. The other two groups of explanatory variables—the importance of the central bank events and the prevalence of a home bias—cannot be excluded from either model. In addition, we cannot reject the hypothesis that the influence of market persistence on the decision to self-monitor is homogenous in case of

both actions and communications. The imposition of the non-rejected joint exclusion and homogeneity restrictions ($\text{Chi}^2(7) = 3.1$ and $\text{Chi}^2(7) = 1.2$, respectively) lead to the reduced models, the estimation results of which are presented in Tables 4 and 5.

Table 4: Self-Monitoring of Interest Rate Decisions (Model 1): Reduced Model

	Coeff.	Pr(1)	Pr(2)	Pr(3)	Pr(4)
<i>Central Banks</i>					
BoE	Ref.	Ref.	Ref.	Ref.	Ref.
BoJ	-0.332 **	0.095 **	0.023 **	-0.038 **	-0.079 **
ECB	0.352 **	-0.076 **	-0.052 **	0.021 **	0.106 **
Fed	0.557 **	-0.109 **	-0.090 **	0.022 **	0.176 **
<i>Location</i>					
Africa and Middle East	-0.260	0.051	0.040	-0.009	-0.082
Australasia/Asia ex-Japan	-0.287 *	0.057 *	0.044 *	-0.011 *	-0.090 *
Europe ex-UK	Ref.	Ref.	Ref.	Ref.	Ref.
Japan	-0.140	0.026	0.023	-0.003	-0.045
North America	-0.424 **	0.090 **	0.060 **	-0.021 **	-0.129 **
South America	0.835 **	-0.088 **	-0.147 **	-0.056 *	0.292 **
United Kingdom	-0.265 *	0.052 *	0.041 *	-0.009 *	-0.084 *
<i>Position</i>					
Analyst/economist	Ref.	Ref.	Ref.	Ref.	Ref.
Asset allocation/CIO	-0.185	0.044	0.022	-0.013	-0.052
Execution/trading	0.078	-0.016	-0.011	0.004	0.024
Portfolio/liability manag.	0.278 **	-0.053 **	-0.043 **	0.008 *	0.088 **
Press/media	-0.120	0.027	0.015	-0.008	-0.035
Other	-0.183 *	0.043 *	0.022 *	-0.013 *	-0.052 *
<i>Importance of Event</i>					
	0.093 **	-0.020 **	-0.013 **	0.004 **	0.028 **
<i>Home Bias</i>					
Rest of the world	Ref.	Ref.	Ref.	Ref.	Ref.
BoE	0.519 **	-0.110 **	-0.070 **	0.024 **	0.156 **
BoJ	1.218 **	-0.258 **	-0.165 **	0.057 **	0.366 **
ECB	0.608 **	-0.129 **	-0.083 **	0.029 **	0.183 **
Fed	0.396 **	-0.084 **	-0.054 **	0.019 *	0.119 **
1 st Cut Point	-0.642 **				
2 nd Cut Point	0.379 **				
3 rd Cut Point	1.133 **				

Notes: Table shows coefficients and average marginal effects of ordered probit model with implemented restrictions. Number of observations: 1,357. Coding of dependent variable: 1 = never, 2 = occasionally, 3 = often, 4 = always. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.

Table 5: Self-Monitoring of Speeches (Model 3): Reduced Model

	Coeff.	Pr(1)	Pr(2)	Pr(3)	Pr(4)
<i>Central Banks</i>					
BoE	Ref.	Ref.	Ref.	Ref.	Ref.
BoJ	-0.320 **	0.112 **	-0.028 *	-0.051 **	-0.033 **
ECB	0.127	-0.041	0.002	0.021	0.018
Fed	0.345 **	-0.103 **	-0.009	0.056 **	0.056 **
<i>Location</i>					
Africa and Middle East	0.124	-0.033	-0.010	0.019	0.024
Australasia/Asia ex-Japan	-0.198	0.059	0.005	-0.033	-0.032
Europe ex-UK	Ref.	Ref.	Ref.	Ref.	Ref.
Japan	-0.345 **	0.108 **	0.000	-0.057 **	-0.051 **
North America	-0.343 **	0.107 **	0.000	-0.057 **	-0.051 **
South America	0.714 **	-0.148 **	-0.114 *	0.079 **	0.183 **
United Kingdom	-0.290 *	0.090 *	0.003	-0.048 *	-0.044 *
<i>Position</i>					
Analyst/economist	Ref.	Ref.	Ref.	Ref.	Ref.
Asset allocation/CIO	0.007	-0.002	0.000	0.001	0.001
Execution/trading	0.108	-0.034	0.001	0.018	0.016
Portfolio/liability manag.	0.202 *	-0.062 *	-0.002	0.033 *	0.031 *
Press/media	-0.191	0.065	-0.011	-0.031	-0.023
Other	-0.124	0.041	-0.006	-0.020	-0.015
<i>Importance of Event</i>					
	0.197 **	-0.062 **	0.002	0.032 **	0.028 **
<i>Home Bias</i>					
Rest of the world	Ref.	Ref.	Ref.	Ref.	Ref.
BoE	0.431 **	-0.137 **	0.005	0.070 **	0.061 **
BoJ	0.809 **	-0.256 **	0.009	0.132 **	0.115 **
ECB	0.173	-0.055	0.002	0.028	0.025
Fed	0.052	-0.016	0.001	0.008	0.007
1 st Cut Point	-0.120				
2 nd Cut Point	1.151 **				
3 rd Cut Point	1.973 **				

Notes: Table shows coefficients and average marginal effects of ordered probit model with implemented restrictions. Number of observations: 1,332. Coding of dependent variable: 1 = never, 2 = occasionally, 3 = often, 4 = always. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.

Columns Pr(1) to Pr(4) show average marginal effects of the ordered probit models. We find that the probability of self-monitoring a central bank event is positively related to its perceived importance. A one unit increase in this variable leads to a higher

conditional likelihood of ‘often’ or ‘always’ watching the event directly by more than 3 percentage points (pp) in the case of central bank action and by 6 pp in the case of speeches.

The final estimates in Tables 4 and 5 indicate why the imposition of homogeneity restrictions in the baseline models is rejected for the variables measuring home bias. A home bias is statistically more prevalent for the BoJ compared to the other three central banks in the case of interest rate decisions and compared to the ECB and Fed in the case of speeches.⁹ Combining the marginal effects for categories 3 (often) and 4 (always) from Table 4 implies that respondents from Japan are 42 pp more likely to self-monitor the BoJ’s interest rate decisions than are those living in the rest of the world (the reference group). The smallest home bias is observed in the case of the Fed, where the conditional likelihood of monitoring Fed decisions is only 14 pp higher for survey participants from North America. In the case of speeches (see Table 5), a significant home bias is observed only for the BoE and the BoJ and the magnitude of these influences is much smaller: the marginal effects for categories 3 (often) and 4 (always) add up to 13 pp for the BoE and to almost 25 pp for the BoJ.

The substantial home bias in Japan may be partly due to the generally lower level of self-monitoring of that bank compared to the BoE (the reference central bank), as indicated by the negative central-bank-fixed effects in Models 1 and 3. The likelihood that the BoJ is self-monitored on interest rate decisions or speeches is 11 pp and 8 pp, respectively, lower for the combined categories (3) and (4) compared to the BoE. Moreover, we observe that some of the findings from the descriptive analysis carry over: financial agents tend to self-monitor Fed action and communication as well as ECB action more often than they self-monitor the BoE. The marginal effects for categories (3) and (4) in the case of the Fed add up to 20 pp for interest rate decisions and 11 pp for speeches. The corresponding values for the ECB are 13 pp and 4 pp, which again illustrates that market participants do not consider speeches by ECB governors to be particularly important. This outcome could be explained by noting that speeches of regional Fed presidents tend to be targeted at their respective audiences (Hayo and Neuenkirch, 2013). Given that nations in Europe are characterised by greater cultural, social, and political differences than are Fed districts, it seems likely that speeches by

⁹ The test statistics are for interest rate decisions: BoJ vs. BoE: $\text{Chi}^2(1) = 7.0^{**}$, BoJ vs. ECB: $\text{Chi}^2(1) = 4.8^*$, and BoJ vs. Fed: $\text{Chi}^2(1) = 9.9^{**}$ and for speeches: BoJ vs. BoE: $\text{Chi}^2(1) = 2.2$, BoJ vs. ECB: $\text{Chi}^2(1) = 6.1^*$, and BoJ vs. Fed: $\text{Chi}^2(1) = 8.8^{**}$.

national central bank presidents are even less indicative of the ECB's monetary policy decisions and therefore generally are not monitored closely.

Finally, there are some differences based on participants' location and position. Respondents from Australasia/Asia ex-Japan (10 pp), North America (15 pp), and the UK (9 pp) tend to self-monitor central bank decisions less often (categories 3 and 4) compared to survey participants from Europe excluding the UK (the reference region).¹⁰ In the case of speeches, we find that respondents from Japan (11 pp), North America (11 pp), and the UK (9 pp) are less likely to self-monitor these events. In addition, portfolio/liability managers have a 10 pp (6 pp) greater likelihood than analysts/economists (the reference group) of often or always monitoring central bank action (speeches) directly.

4.2. Reliance on Newswire Services

Next, we turn to the determinants of relying on newswire services to monitor monetary policy action and communication. Similar to the results for self-monitoring, we find that the reasons for using newswire services to monitor central bank events are the same for both actions (Model 2, right panel of Table A2) and communications (Model 4, right panel of Table A3). In neither case does market persistence of central bank events play a significant role, as these variables can be jointly excluded from the baseline models. Thus, the decision to monitor an event via media reports is not due to the event's perceived persistent impact on financial markets. We also can exclude the indicator variables measuring home bias. Therefore, when it comes to using newswire services, respondents do not differentiate between the home central bank and the other central banks. In contrast, the reliability of media coverage cannot be excluded from either model, and nor can we reject the hypothesis that the influence of the latter variable is homogenous in the case of both actions and communications. The joint exclusion and homogeneity restrictions ($\text{Chi}^2(11) = 10.5$ and $\text{Chi}^2(11) = 14.6$, respectively) lead to the reduced models, the estimation results of which are presented in Tables 6 and 7.

The perceived reliability of media coverage is positively related to the probability of employing newswire services to monitor central bank events. A one unit increase in media reliability raises the likelihood of using media 'often' or 'always' by 7 pp for both actions and speeches.

¹⁰ Given that we have only 12 respondents from South America, we refrain from drawing any conclusions from this small number of observations.

Compared to the BoE, the likelihood that the ECB's and the Fed's communications are monitored often or always by means of newswire services is 8 pp and 10 pp, respectively, higher. In the case of interest rate decisions, however, only the ECB is frequently watched, with a 6 pp higher probability of using the media. Combined with the results from the previous subsection, this validates in a multivariate setting the descriptive finding that these two central banks are more important than the BoE and the BoJ.

Table 6: Monitoring Interest Rate Decisions via Newswire Services (Model 2): Reduced Model

	Coeff.	Pr(1)	Pr(2)	Pr(3)	Pr(4)
<i>Central Banks</i>					
BoE	Ref.	Ref.	Ref.	Ref.	Ref.
BoJ	0.129	-0.014	-0.029	-0.003	0.046
ECB	0.183 *	-0.020 *	-0.040 *	-0.006	0.066 *
Fed	0.134	-0.015	-0.030	-0.003	0.048
<i>Location</i>					
Africa and Middle East	0.099	-0.011	-0.022	-0.003	0.036
Australasia/Asia ex-Japan	0.037	-0.004	-0.008	-0.001	0.013
Europe ex-UK	Ref.	Ref.	Ref.	Ref.	Ref.
Japan	0.185	-0.019	-0.041	-0.008	0.068
North America	0.057	-0.006	-0.013	-0.001	0.020
South America	-0.220	0.030	0.048	-0.006	-0.073
United Kingdom	0.169	-0.017	-0.037	-0.007	0.061
<i>Position</i>					
Analyst/economist	Ref.	Ref.	Ref.	Ref.	Ref.
Asset allocation/CIO	0.091	-0.010	-0.020	-0.002	0.033
Execution/trading	0.147	-0.016	-0.033	-0.005	0.053
Portfolio/liability manag.	0.093	-0.010	-0.021	-0.002	0.033
Press/media	0.230	-0.023	-0.051	-0.011	0.084
Other	0.153	-0.016	-0.034	-0.005	0.055
<i>Reliability of Coverage</i>					
	0.220 **	-0.023 **	-0.049 **	-0.009 **	0.080 **
1 st Cut Point	-0.687 **				
2 nd Cut Point	0.357 *				
3 rd Cut Point	1.371 **				

Notes: Table shows coefficients and average marginal effects of ordered probit model with implemented restrictions. Number of observations: 1,357. Coding of dependent variable: 1 = never, 2 = occasionally, 3 = often, 4 = always. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.

Table 7: Monitoring Speeches via Newswire Services (Model 4): Reduced Model

	Coeff.	Pr(1)	Pr(2)	Pr(3)	Pr(4)
<i>Central Banks</i>					
BoE	Ref.	Ref.	Ref.	Ref.	Ref.
BoJ	0.053	-0.006	-0.014	0.005	0.015
ECB	0.234 **	-0.023 **	-0.061 **	0.013 *	0.071 **
Fed	0.283 **	-0.027 **	-0.073 **	0.013 *	0.087 **
<i>Location</i>					
Africa and Middle East	0.128	-0.015	-0.033	0.012	0.036
Australasia/Asia ex-Japan	0.031	-0.004	-0.008	0.003	0.008
Europe ex-UK	Ref.	Ref.	Ref.	Ref.	Ref.
Japan	0.287 **	-0.030 **	-0.074 **	0.019 *	0.085 **
North America	0.378 **	-0.037 **	-0.097 **	0.019 *	0.115 **
South America	-0.029	0.004	0.007	-0.003	-0.008
United Kingdom	0.305 **	-0.031 **	-0.079 **	0.019 *	0.090 **
<i>Position</i>					
Analyst/economist	Ref.	Ref.	Ref.	Ref.	Ref.
Asset allocation/CIO	-0.077	0.008	0.020	-0.005	-0.023
Execution/trading	0.141	-0.012	-0.036	0.004	0.044
Portfolio/liability mgr.	0.079	-0.007	-0.020	0.003	0.024
Press/media	0.177	-0.015	-0.045	0.004	0.056
Other	-0.050	0.005	0.013	-0.003	-0.015
<i>Reliability of Coverage</i>					
1 st Cut Point	-0.685 **				
2 nd Cut Point	0.603 **				
3 rd Cut Point	1.750 **				

Notes: Table shows coefficients and average marginal effects of ordered probit model with implemented restrictions. Number of observations: 1,332. Coding of dependent variable: 1 = never, 2 = occasionally, 3 = often, 4 = always. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.

Finally, there are no significant differences when considering the survey participants' job positions or locations as explanatory variables for the decision to monitor speeches via newswire services, and the same is true for position, but not location, when it comes to interest rate decisions. Confirming the impression from the descriptive section, respondents from Japan, North America, and the UK rely more often on newswire services for speeches than do those from the reference group, Europe excluding the UK. For market participants from these regions, the likelihood of

employing media coverage often or always is significantly higher by 11 pp, 13 pp, and 11 pp, respectively.

5. Conclusions

In this paper, we provide an answer to the question of how financial market participants process news from four major central banks—the Bank of England, the Bank of Japan, the European Central Bank, and the Federal Reserve. We examine whether and, if so, why financial agents monitor central bank action and communication directly or rely on newswire services. Our key explanatory variables are the market persistence of central bank events, as a proxy for importance, and the reliability of media coverage of central bank events. We also implement a methodological innovation, as this is the first paper to take a closer look at how financial agents digest central bank news. We use a large worldwide survey of financial market participants to shine some light on how financial agents process central bank events and to what extent the media works as a news transmitter.

In the first step of our investigation, we conduct an extensive descriptive analysis that reveals several items of interest. First, market participants rely more on newswire services to learn about central bank events than on self-monitoring. In addition, the general attention level—irrespective of whether events are monitored directly or via newswire services—is higher for interest rate decisions than for speeches. Comparing the attention level across central banks reveals a distinct hierarchy: the Fed is monitored most closely, followed by the ECB, the BoE, and the BoJ. Financial agents spend relatively more time self-monitoring central bank events when it is their home central bank (exception: Fed). Second, interest rate decisions are perceived as having a more persistent impact on financial markets than do speeches. Third, market participants are satisfied with the media's coverage of central banks; more than 80% of the respondents (BoJ and ECB) find the coverage reliable or very reliable.

In the second step, we estimate ordered probit models to explain why financial market agents choose either self-monitoring or the media for central bank news by indicators measuring perceived importance of events, reliability of media coverage, and home bias. In general, the results are homogenous across central banks, with the magnitude of the home bias in the case of self-monitoring being the only exception. First, the more persistent agents perceive the influence of actions and communications, the

higher is the conditional likelihood of monitoring these events directly. In contrast, lower perceived reliability of media coverage does not significantly increase the probability of self-monitoring. Second, the conditional likelihood of relying on newswire coverage is increasing in its perceived reliability. In contrast, we find no significant home bias or any significant effect of the perceived importance of central bank events. Third, similar to findings for self-monitoring, the conditional likelihood of monitoring the ECB and Fed via newswire services is higher than it is for the reference central bank in our analysis, the BoE, a finding suggesting that market participants view the former two central banks as more important than the BoE and BoJ.

Overall, our results indicate that—given the 24-hour flood of daily information to which they are exposed—financial agents have to rely on newswire services to digest news. Given the globalisation of the international financial system, individual agents are unable to follow the news around the clock and hence must rely on media reporting. Another important reason for this reliance is that work-time constraints make our respondents appreciative of timely summaries of central bank events. Despite some serious doubts expressed by some respondents in the non-structured part of the questionnaire concerning the selectiveness of the media and potential misinterpretation in general, perceived reliability of media coverage of the four major central banks in our sample is the key factor explaining reliance on it. However, whenever respondents consider an event to be particularly important, they tend to self-monitor it, especially when the event is taking place in their home region.

Finally, we identify newswire service as an important transmitter of central bank action and communication. As management of expectations is a key element of modern central banking (Woodford, 2005) and the media influences market participants' expectations, central bankers should consider clarifying their language and, as one of the respondents put it, trying to 'reduce the jargon that only very few outside central banks understand and feel at ease with'. This would decrease the chances of misinterpretation by the media. At the same time, allowing financial markets to directly interpret what the central bank is saying is an important addition to media reporting and helps avoid misinterpretation or even misinformation. Thus, media reporting cannot fully substitute for self-monitoring, which may explain why central banks have been expending so much effort on improving their direct communication with financial market participants.

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Appendix

Table A1: Distribution of Respondents Across Geographic Regions and Job Positions

Location			Position		
Africa and Middle East	16	4%	Analyst/economist	135	30%
Australasia/Asia ex-Japan	48	11%	Asset allocation/CIO	25	6%
Europe (excluding the UK)	90	20%	Execution/trading	70	16%
Japan	71	16%	Portfolio/liability manager	101	22%
North America	105	23%	Press/media	18	4%
South America	12	3%	Other	101	22%
United Kingdom	108	24%			
Sum	450	100%	Sum	450	100%

Table A2: Monitoring Interest Rate Decisions: Full Models

	Self-Monitoring (Model 1)			Newswire (Model 2)		
	Coeff.	Excl.	Equal.	Coeff.	Excl.	Equal.
<i>Central Banks</i>						
BoE	Ref.			Ref.		
BoJ	-0.023			-0.257		
ECB	0.498			0.329		
Fed	0.405			0.465		
<i>Location</i>						
Africa and Middle East	-0.264			0.119		
Australasia/Asia ex-Japan	-0.281 *			0.056		
Europe ex-UK	Ref.			Ref.		
Japan	-0.125			0.161		
North America	-0.413 **			0.165		
South America	0.837 **			-0.210		
United Kingdom	-0.259 *			0.113		
<i>Position</i>						
Analyst/economist	Ref.			Ref.		
Asset allocation/CIO	-0.180			0.087		
Execution/trading	0.072			0.142		
Portfolio/liability manag.	0.277 **			0.085		
Press/media	-0.146			0.234		
Other	-0.173 *			0.146		
<i>Reliability of Coverage</i>						
		3.1	---		31.9 **	3.1
... BoE	0.080			0.193 *		
... BoJ	-0.022			0.346 **		
... ECB	0.030			0.210 **		
... Fed	0.107			0.149		
<i>Importance of Event</i>						
		15.2 **	0.1		0.4	---
... BoE	0.086 *			0.011		
... BoJ	0.088			0.002		
... ECB	0.089			-0.026		
... Fed	0.099 *			0.001		
<i>Home Bias</i>						
		77.3 **	10.3 *		6.8	---
... BoE	0.518 **			0.282		
... BoJ	1.207 **			0.155		
... ECB	0.615 **			0.067		
... Fed	0.403 **			-0.300		
<i>Cut Points</i>						
1 st Cut Point	-0.409			-0.659 *		
2 nd Cut Point	0.613 *			0.388		
3 rd Cut Point	1.368 **			1.407 **		

Notes: Table shows coefficients of ordered probit models. Number of observations: 1,357. Joint exclusion and homogeneity restriction: $\chi^2(7) = 3.1$ and $\chi^2(11) = 10.5$, respectively. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.

Table A3: Monitoring Speeches: Full Models

	Self-Monitoring (Model 3)			Newswire (Model 4)		
	Coeff.	Excl.	Equal.	Coeff.	Excl.	Equal.
<i>Central Banks</i>						
BoE	Ref.			Ref.		
BoJ	-0.289			-0.134		
ECB	0.097			0.321		
Fed	0.262			0.385		
<i>Location</i>						
Africa and Middle East	0.121			0.163		
Australasia/Asia ex-Japan	-0.194			0.068		
Europe ex-UK	Ref.			Ref.		
Japan	-0.338 **			0.297 *		
North America	-0.329 **			0.458 **		
South America	0.715 **			-0.004		
United Kingdom	-0.286 *			0.242 *		
<i>Position</i>						
Analyst/economist	Ref.			Ref.		
Asset allocation/CIO	0.018			-0.084		
Execution/trading	0.104			0.143		
Portfolio/liability manag.	0.200 *			0.075		
Press/media	-0.208			0.169		
Other	-0.120			-0.061		
<i>Reliability of Coverage</i>						
		0.9	---		24.8 **	2.1
... BoE	0.041			0.099		
... BoJ	0.044			0.257 **		
... ECB	0.039			0.237 **		
... Fed	0.039			0.235 *		
<i>Importance of Event</i>						
		38.6 **	0.3		5.7	---
... BoE	0.185 **			0.074		
... BoJ	0.174 *			-0.018		
... ECB	0.202 **			-0.102		
... Fed	0.218 **			-0.086		
<i>Home Bias</i>						
		29.8 **	10.3 *		6.0	---
... BoE	0.435 **			0.336 *		
... BoJ	0.810 **			0.082		
... ECB	0.171			0.121		
... Fed	0.042			-0.137		
<i>Cut Points</i>						
1 st Cut Point	-0.015			-0.765 *		
2 nd Cut Point	1.257 **			0.536		
3 rd Cut Point	2.079 **			1.690 **		

Notes: Table shows coefficients of ordered probit models. Number of observations: 1,332. Joint exclusion and homogeneity restriction: $\chi^2(7) = 1.2$ and $\chi^2(11) = 14.6$, respectively. Huber (1967)/White (1980) robust standard errors are used. ** and * indicate the 1% and 5% significance level, respectively.